

ABSTRACT OF THE DISCLOSURE

A process for economically separating and recovering valuable metal components, with few kinds of chemicals being used, with no waste water that causes environmental pollution being discharged, and also perfectly no by-products being formed by means of simple steps. The process includes a step of leaching a raw material containing at least vanadium oxides and molybdenum oxides with ammonia-containing leaching water to obtain a leached solution containing a vanadium compound and a molybdenum compound, a step of adding ammonium orthomolybdate to the leached solution to separate and recover the deposited ammonium metavanadate from a first solution for separation, a step of adding a water-soluble alcohol to the separated solution to separate and recover the deposited ammonium orthomolybdate from a second solution for separation, a step of distilling the second solution for separation to separate and recover the water-soluble alcohol and a residue solution, a step of adding at least a portion of the residue solution to the ammonia-containing leaching water as the portion thereof, and a step of returning a portion of the recovered ammonium orthomolybdate and a total of a recovered, water-soluble alcohol to the system for reusing.